

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002452**Date Inspected:** 02-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1130**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Le Feng**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG & Tower**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

New Tower Shop Bay 1:

The QA Inspector observed no welding or other work being performed for this contract.

New Tower Shop Bay 2:

The QA Inspector randomly observed ZPMC welder Shen Mei ID Number 041716, utilizing the Submerged Arc Welding (SAW) Process in the 1G Position (Flat Groove) with ZPMC Weld Procedure Specification (WPS) WPS-B-P-2221-B-U3c-S-1, to weld the root pass in Weld Joint (WJ) ESD1-SA77A/E-43B on Tower Skin Plate E Sub-Assembly SA77(E). The QA Inspector randomly observed ZPMC CWI Xu Le Feng monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 520 amps, 29.1 volts with a travel speed of 455 millimeters (mm) per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations per ZPMC Heat Straightening Request HSR1(T)-1271 Rev 0 piece mark p1408(W), to reduce mill induced distortion.

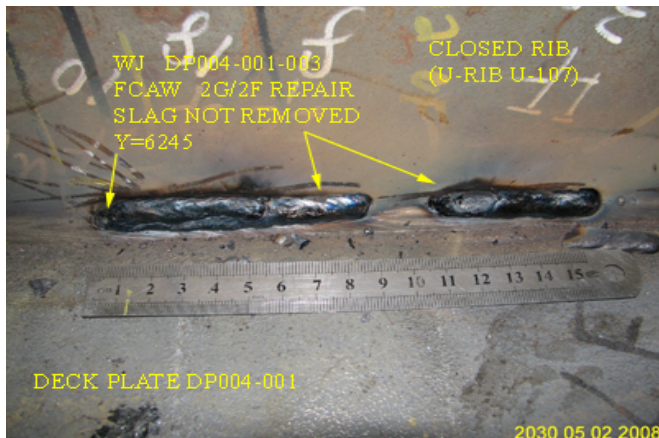
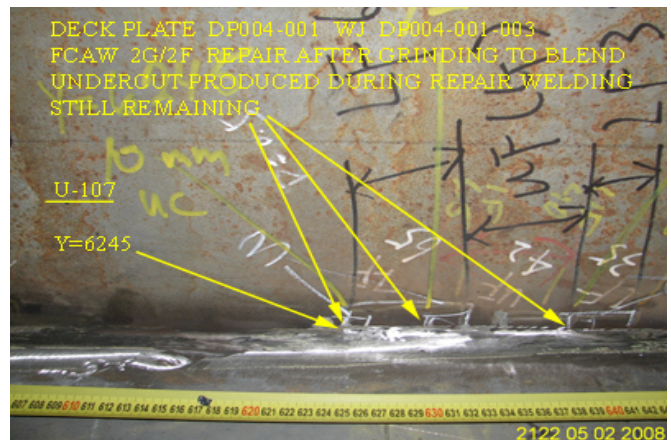
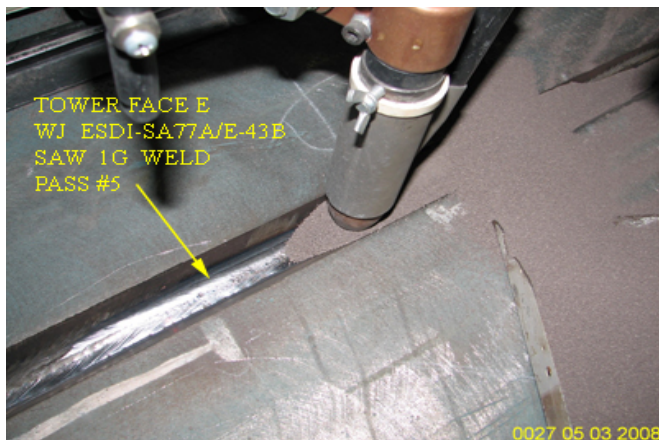
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New Tower Shop Bay 3:

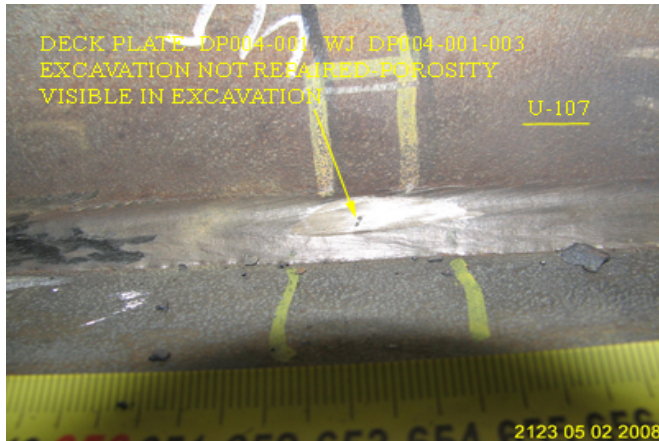
The QA Inspector randomly observed ZPMC welding personnel utilizing 4-1/2 inch grinders to blend and feather welds after weld repair and to remove overlap and reduce oversized welds on Deck Plate DP004-001 WJ Numbers DP004-001-001 through 010, U-Ribs U-109, U-107 and U-108 respectively. The QA Inspector randomly observed that several repaired areas on WJ DP004-001-003 beginning at location Y=6245, had Undercut (UC) to a depth of 1 mm below flush at the top of the weld in the base metal of U-rib U-109, after the weld repair. The area at location Y=6245 had 10 mm of UC, Y=6295 25 mm of UC, Y=6380 40 mm of UC, Y=6720 40 mm of UC and Y=6520; which had been excavated for a length of 30 mm but not repaired. The QA Inspector also randomly observed 10 mm of UC in a weld repair at Y=6010 in WJ DP004-001-006. These areas had not been blended at this time. The QA Inspector informed American Bridge/Fluor Enterprises QC Representative Ding Buohua, and Mr. Ding marked the areas of UC with white paint marker. The QA Inspector then randomly observed ZPMC helpers utilize the 4-1/2 inch angle grinders to blend the welds containing the UC, with the UC remaining after the grinding was completed. The attached photographs provide additional detail.

The QA Inspector randomly observed ZPMC welding personnel utilizing 4-1/2 inch grinders to blend and feather welds after weld repair and to remove overlap and reduce oversized welds on Deck Plate DP006-002 WJ Numbers DP004-001-001 through 008, U-Ribs U-167, U-101, U-169 and U-88 respectively. The attached photographs provide additional detail.



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Summary of Conversations:

There were no relevant conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowry (858) 344-2712, who represents the Office of Structural Materials for your project.

Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Carreon,Albert

QA Reviewer